REMARKS

Claims 1-9 are in this application.

The examiner maintains that claims 1-9 are anticipated by U.S. Patent 5,958,780. This is respectfully traversed.

According to page 7, lines 17-21, of the specification "Original concentrations of markers are selected at random using the generated for this purpose random numbers. The marking code formed after marking, which contains data about the markers used for marking, is encrypted and upon identifying of the marked liquid this encryption code is used as a key to set-up of measuring and analyses procedures performed by marker reader (MR)". As explained to the examiner during the interview conducted on December 9, 2009, the numbers used as the marking code are random.

The marking, encrypting and decrypting process described and claimed in the application is performed as follows:

The set of markers is defined for further marking. Such set can consist of N different markers with serial number ***n*** ranging from 1 to N. This is so that it is possible to detect each marker in presence of other markers. This is disclosed on page 4, lines 17-27. This is a BASIC SET used for marking.

Next, for each marker a minimal portion (unit dose) to be introduced is defined. The minimal portion shall be such that this marker must be detectable in presence of other markers even if the minimal portion has been introduced and irrespective of the amount of the other markers introduced (even if the maximal amount of other markers has been introduced).

The number of possible portions ***m*** for each marker is to be determined. Thus, the number of portions ***m*** which is determined for a marker used for marking ranges from 1 to M. This is described on page 4, line 27 and page 7, line 32-page 8, line 4. While marking the liquid, every marker is introduced into the liquid preferably by multiples of this minimal portion.

For example, a BASIC set consists of 10 markers (N=10), 3 markers are used in marking procedure, and every marker can be added to the liquid in amount of portions

ranging from 1 to 6. (The same can be done with 2 markers and 1 to 10 portions, or 4 markers and 1 to 5 portions etc. That means that any combination is useable).

To start marking, the software generates **3 random** serial numbers n_1, n_2, n_3. from the set 1 to N. It selects the serial numbers of markers, which will be added to the liquid, from BASIC set of 10 markers, Another set of **random** numbers m_1, m_2, m_3 from the range of 1 to M is generated to manage the Marking Station (MS) for addition of m_1, m_2, m_3 portions of markers n_1, n_2, n_3 to the liquid (this has been disclosed on page 7, line 32-page 8, line 4 and in the Example. The markers and the concentration of the markers are selected in a **random way** from pre-defined set (this has been disclosed on page 7, lines 17-21). After introducing the markers into the liquid (after marking the liquid) the corresponding concentrations of markers c_1, c_2, c_3 and their ratios $i_1 = c_1/c_2$; $i_2 = c_2/c_3$; and $i_3 = c_1/c_3$ are detected by Marker Reader from the marked liquid.

As the selection of markers and their concentrations is done in a random way, the concentrations of markers and their ratios are also not pre-defined. A fixed combination of numbers $< n_1, n_2, n_3 ; m_1, m_2, m_3 ; c_1, c_2, c_3 ; i_1, i_2, i_3 >$, obtained after the marking and concentrations' and ratios' detecting process, serves as a marking code. The code is random by its nature and further encrypted to protect the information from disclosure.

Such encrypted code is the only information delivered together with the marked liquid to authorized customer. Upon receiving the encrypted code, the authorized customer enters the code into Marker Reader (MR) and the MR decrypts the whole code< $n_1, n_2, n_3 ; m_1, m_2, m_3 ; c, c_2, c_3; i_1, i_2, i_3 >$ which further is used by the MR in the following way: the values of $n_1, n_2, n_3 ; m_1, m_2, m_3$ (the first part of the code) serve for automatic setup of the measuring settings of Marker Reader for further measurement of real concentrations C of markers in the liquid received and calculating the real ratios I (disclosed on page 8, lines 6-12). When Marker Reader is configured according to the first part of the code, it reads **from the received liquid** the real concentrations of markers C_1, C_2, C_3 and defines their real ratios I_1, I_2, I_3 to compare with the second part of the code $c_1, c_2, c_3 ; i_1, i_2, i_3$ for authentication. The authentication is confirmed when the detected values correspond to the original code (disclosed on page 8, lines 22-25). The only information the authorized customer will receive from the Marker Reader is:

Authentication YES or NO. **NO** means that the liquid is not the same as the original liquid.

In the way of marking according to this invention there is no set reference table or look-up table as described in Asher et al. used for verification, the information in the code is all-sufficient to identify the marked liquid. **The computer program installed in the Marker Reader does not include any predetermined values** of *n, m, c* and *i* either. **For the authentication purpose the user receives only the encrypted code, and there is no other information available for him and needed for the identification of the liquid.** According to Asher the additives at predominant ratio are used to mark the liquid, and the comparison of measured ratio with look-up table allows to identify if the liquid is authentic. **It supposes that the controlling person should know the ratio of additives and compare it with look-up table. It means that for the purpose of authentication the person has to have a certain knowledge, which can be disclosed, traded or given to others and used for the counterfeit.**

In the claimed invention, the encrypted code is used to set up the marker reader. After that the reader reads the internal code from the liquid and verifies if it is a proper one. It is not possible to read the correct code without corresponding setup of the reader, and the setup is done based on the encrypted code.

Therefore **the person who receives the liquid should not know any information about the additives in a liquid and their ratios** to make authentication. As a result there is no information which can be disclosed, traded or given to others and used for the counterfeit.

Asher does not disclose the use of an encryption code and the examiner's attention is drawn to page 10 of the specification. According to column 3, lines 8-16 of Asher

> The markers are mixed in the liquid so that the ratio of the concentration of the first marker to the concentration of the second marker is substantially equal to a predetermined value. Thus, when a system according to the invention

measures the concentrations of the first and second markers, the system can compare the ratio of the measured concentration of the first marker to the measured concentration of the second marker with a look up table of predetermined values to provide information concerning the identity of the liquid.

Asher discloses that the concentrations of the markers are fixed so as to match a value that is present in a preexisting look up table with predetermined values. Unlike Asher, in this invention there is no fixed preexisting look up table and the marking code of the invention is characteristic only to this liquid volume. As Asher does not disclose all of the elements of claims 1-9 it cannot and does not anticipate these claims.

It is respectfully requested that this rejection be withdrawn.

It is submitted that the application is in condition for allowance and favorable consideration is respectfully requested.

Respectfully submitted,

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